

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Previously presented) A high speed backplane interconnection system comprising:
  - a plurality of conductor matched impedance transmission line elements;
  - an air dielectric surrounding the plurality of transmission line elements; and
  - a housing surrounding the transmission elements comprising a cover and a base adapted to securely receive the cover wherein the cover and the base are formed from a non-conductive material.
2. (Original) The interconnection system of claim 1, further comprising:
  - a ground plate disposed a predetermined distance from the transmission line elements wherein the predetermined distance is reflective of a characteristic impedance of the system.
3. (Original) The interconnection system of claim 1, further comprising:
  - a base plate; and
  - a plurality of spacers positioned on said base plate for securing the transmission line elements a predetermined distance from said base plate.
4. (Original) The interconnection system of claim 3, wherein the spacers are formed from a non-conductive material.
- 5.-7. (Canceled)
8. (Original) The interconnection system of claim 1, further comprising:
  - a plurality of signal tabs, each signal tab connected to an end of each transmission line and also adapted to be connected to an electrical system such that when the signal tab is connected to the electrical system an electrical connection is established between the transmission line and the electrical system.
9. (Original) The interconnection system of claim 2, further comprising:

at least one ground tab connected to the ground plate for connecting the ground plate to a ground.

10. (Original) The interconnection system of claim 1, wherein the transmission line elements have a round cross-section.

11. (Currently amended) An electrical system comprising:

a backplane; ~~and~~

a high speed interconnection system disposed on said backplane, the interconnection system comprising:

a plurality of conductor matched impedance transmission line elements;

an air dielectric surrounding the plurality of transmission line elements; and

a ground plate disposed a ~~predetermined~~ distance from the transmission line elements ~~wherein the predetermined distance is reflective of a predetermined characteristic impedance of the system; and~~

a spacer disposed between the line elements and the ground plate that maintains the line elements at the distance from the ground plate and maintains the line elements at a second distance from one another.

12. (Currently amended) A high speed backplane interconnection system comprising:

a plurality of conductor matched impedance transmission line elements;

an air dielectric surrounding the plurality of transmission line elements; and

a ground plate disposed a ~~predetermined~~ distance from the transmission line elements ~~wherein the predetermined distance is reflective of a predetermined characteristic impedance of the system; and~~

a spacer disposed between the line elements and the ground plate that maintains the line elements at the distance from the ground plate and maintains the line elements at a second distance from one another.

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**PATENT**

13. (New) The interconnection system of claim 12, wherein the spacer includes a respective groove corresponding to each said line element for securing the line elements at the distance from the ground plate.

14. (New) The interconnection system of claim 12, wherein the a spacer is disposed between the line elements and only a single ground plate.